

August 13, 2003

Mr. Steven Wakefield  
Vice President, Operations  
Superior Oil Company, Solvents and Chemicals Division  
400 West Regent Street  
Indianapolis, IN 46225

Dear Mr. Wakefield:

Re: Exempt Construction and Operation Status,  
**097-17438-00286**

The application from Superior Oil Company, received on July 2, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the new process of unloading and repackaging of virgin amines using already permitted equipment, to take place at 400 West Regent Street, Indianapolis, Indiana, is classified as exempt from air pollution permit requirements. There is no new equipment to be added to this source.

This existing source has been issued a Part 70 Permit (T-097-7395-00286) on July 7, 1999. Since this process will take place using equipment currently identified in the Part 70 Permit, no new rules apply, and no new monitoring, reporting or record keeping is required, no permit modification is necessary. The Permittee shall include this process in their Part 70 renewal application. This process shall be subject to the requirements of the Part 70 Permit T097-7395-00286.

Any change or modification which may increase the potential VOC emissions to more than 10 tons per year or HAPs emissions to greater than 1 ton of any single HAP from the process covered in this exemption must be approved by the Office of Environmental Services (OES) before such change can occur.

Sincerely,

Original signed by John B. Chavez

John B. Chavez, Administrator

ajh

cc: Files  
Permits - Amanda Hennessy  
Air Compliance - Matt Mosier  
OAQ, Mindy Hahn

**Indiana Department of Environmental Management  
Office of Air Quality  
and  
City of Indianapolis  
Office of Environmental Services**

Technical Support Document (TSD) for an Exemption

**Source Background and Description**

**Source Name:** Superior Oil Company  
**Source Location:** 400 West Regent, Indianapolis, IN 46225  
**County:** Marion  
**SIC Code:** 5169, 7389, 2899  
**Exemption No.:** 097-17438-00286  
**TV OP No.:** 097-7395-00286  
**Permit Reviewer:** Amanda Hennessy

The Office of Air Quality (OAQ) has reviewed an application from Superior Oil Company relating to the operation of a new process of unloading and repackaging of virgin amines using already permitted equipment.

**Proposed Emission Unit**

The source wishes to begin unloading and repackaging of virgin amines using already permitted equipment. There are no new emission units being proposed.

**Existing Approvals**

The source is operating under the following previous approvals:

- (a) TVOP 097-7395-00286, issued on July 7, 1999;
- (b) E 097-12021-00286, issued on May 19, 2000; and
- (c) AA 097-12477-00286, issued on July 24, 2000.

**Enforcement Issue**

There are no enforcement actions pending.

**Recommendation**

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on July 2, 2003.

**Emission Calculations**

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are attached in Appendix A.

### Potential To Emit of the Proposed New Process

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	negligible
PM-10	negligible
SO <sub>2</sub>	negligible
VOC	2.9
CO	negligible
NO <sub>x</sub>	negligible

HAP's	Potential To Emit (tons/year)
Triethylamine	0.28495
<b>Total</b>	<b>0.28495</b>

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC from the new process is less than 10 tons per year. Therefore, the new process qualifies as an exemption under the provisions of 326 IAC 2-1.1-3(d)(1)(D).
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of a triethylamine (a HAP) from the new process is less than 1 ton per year. Therefore, the new process qualifies as an exemption under the provisions of 326 IAC 2-1.1-3(d)(1)(H).

The potential to emit calculated for the Part 70 Operating permit was not based on potential throughput. Therefore, these additional emissions need to be added to the potentials as listed in the technical support document of the originally issued Part 70 Operating Permit. The original potential to emit of VOC was calculated at 122.46. Therefore, the new potential to emit of VOC is now 125.36. This creates no change in source status (PSD or Part 70). The original potential to emit of a single HAP (methylene chloride) and combined HAPs was calculated at 169.02. The new potential to emit of a single HAP is still 169.02 (based on maximum emissions of a single HAP - methylene chloride). The new potential to emit of combined HAPs is 169.3. Again, these changes create no change in source status.

### County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	unclassifiable
SO <sub>2</sub>	maintenance attainment
NO <sub>2</sub>	attainment
Ozone	maintenance attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Marion County has been classified as attainment or unclassifiable for PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>2</sub> and CO. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Local Agency  
Based on the initial location of this source, the Indianapolis Office of Environmental Services shall be contacted for additional air operating requirements.

### **Part 70 Permit Determination**

#### **326 IAC 2-7 (Part 70 Permit Program)**

This new source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or
- (c) any combination of HAPs is greater than or equal to 25 tons/year.

This new source has applied for and received a Part 70 (Title V) operating permit. This proposal creates no changes that need to be made to the Part 70 permit issued on July 7, 1999. Therefore, no permit modification under 326 IAC 2-7-11 or under 326 IAC 2-7-12.

### **Federal Rule Applicability**

- (a) This proposed process does not subject the source to any New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) that were not already applicable.
- (b) This proposed process does not subject the source to any National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63).

### **State Rule Applicability - Entire Source**

This proposed process does not subject the source to any state rules that were not already applicable and listed in T097-7395-00286.

### **State Rule Applicability - Individual Facilities**

#### **326 IAC 2-4.1**

This new process does not have the potential to emit greater than 10 tons per year of any single HAP or greater than 25 tons of any combination of HAPs. Therefore, 326 IAC 2-4.1 is not applicable to this process.

#### **326 IAC 8-1-6**

This new process does not have the potential to emit greater than 25 tons per year of VOC. Therefore, 326 IAC 8-1-6 is not applicable to this process.

### **Conclusion**

The operation of this new virgin amine unloading and repackaging process shall be subject to the conditions of the existing Part 70 Operating Permit T097-7395-00286 and the attached Exemption Letter E097-17438-00286.

Appendix A: Emission Calculations  
Expanded Drumming Operations

Company Name: Superior Oil Company, Inc.  
 Address, City, Zip: 400 West Regent, Indianapolis, IN 46225  
 TV Permit No.: T097-7395-00286  
 Exemption No.: E097-17438-00286  
 Reviewer: Amanda Hennessy  
 Date: July, 2003

Product	CAS	MW	Vp mm Hg	SG	Vol (lbs)	Vol (gal)	Emissions (lbs)
Dibutylaminoethanol	102-81-8	173.3	0.1	0.87	550,000	75,801	0.9
Diethylaminoethanol	100-37-8	117.2	1	0.89	1,200,000	161,668	12.5
Pennad 150 (DEAE)	100-37-8	116	1.4	0.89	800,000	107,779	11.5
Diisopropylaminoethanol	96-80-0	145	0.55	0.875	80,000	10,963	0.6
Dimethyl-2propanol 77%	108-16-7	103	20	0.91	600,000	79,058	107.4
Dimethyl-2-propanol 100%	108-16-7	103.2	8	0.85	100,000	14,106	7.7
Isopropylaminoethanol (mix)	109-56-8	103.19	4	0.94	300,000	38,267	10.4
Dimethylaminoethanol	108-01-0	89	4	0.89	950,000	127,987	30.0
Methyldiethanolamine	105-59-9	84	0.01	1.04	1,000,000	115,292	0.1
Synergex (BEA)		117.2	0.01	0.84	600,000	80,834	0.1
Butyldiethanolamine	102-79-4	161	1	0.97	50,000	6,181	0.7
Dibutylamine	111-92-2	129.2	3.75	0.76	300,000	47,331	15.1
Diethylamine	109-89-7	73.1	195	0.71	1,200,000	202,655	1904.7
Triethylamine	121-44-8	101.2	52	0.73	1,000,000	164,252	569.9
Diisopropylamine	108-18-9	101.2	50	0.72	120,000	19,984	66.7
Monoamylamine	110-58-7	87.1	30	0.89	80,000	10,778	18.6
Monoisopropylamine	75-31-0	59.1	470	0.69	350,000	60,821	1113.9
Monoisobutylamine	109-73-9	73	68	0.74	1,400,000	226,846	742.5
Tributylamine	102-82-9	185.4	20	0.78	350,000	53,803	131.5
Monoethylamine 70%	75-04-7	45	430	0.71	250,000	42,220	538.7
Pennstop DEHA	3710-84-7	89.1	32	0.902	2,100,000	279,156	524.8
Penstop 100%	3710-84-7	89.1	32	0.87	325,000	44,792	84.2

Total: 13,705,000 1,970,574 5,892  
2.9

Emissions using AP-42 EF for loading losses  
 $E = 12.46 * S * P * M / T$  = pounds of emissions per 1000 gallons loaded  
 T = Temp (Rankine) = 530  
 M = Mol. Wt (lb/lb-mole)  
 P = Vapor pressure (psia)  
 S = Saturation factor (1.45 for splash loading)